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ABSTRACT

This report, prepared as part of the Project in Television and Early Childhood Education at the University of Southern California, contains a review of landmark and current literature on parent-child interaction (PCI). Major theoretical assumptions, research procedures and findings are analyzed in order to develop a model of parent-child interaction strategies as a means of increasing socialization and cognitive development in young children to provide guidelines for the use of this model with home television viewing. Project plans call for the use of a parent-child interaction model tc enhance learning gains from commercial television viewing. The report is organized into three divisions: (1) theoretical background and purposes underlying PCI models; (2) research procedures used in the studies reviewed; and (3) significant findings of current studies. Implications of these studies to proposed research at USC are discussed. (MS)

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A Joint Project of The Annenberg School of Communications and The School for Early Childhood Education

University of Southern California, Los Angeles, California, 90007

PARENT-CHILD INTERACTION:

RESEARCH AND ITS PRACTICAL IMPLICATIONS

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February, 1976

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ABSTRACT

This report contains a review of the landmark and current literature on parent-child interaction. The major theoretical assumptions, research procedures and findings are analyzed. Conclusions and guidelines for projected research in parent-child interaction constitute the final section of this review.

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ORGANIZATION OF THE REPORT

The principal concerns of this report are two-fold: 1) to review the empirical evidence of parent-child interaction (PCI) in order to develop a model of parent-child interaction strategies as a means of increasing socialization and cognitive development in young children; and 2) to provide guidelines for the use of this model with home television viewing.

The impetus of the review is derived from a project developed jointly by the School for Early Childhood Education and the Annenberg School of Communications at the University of Southern California. Plans call for the use of a parent-child interaction model to enhance learning gains from commercial television viewing. This paper is part of the over-all project and will focus on the most recent and relevant literature of parent-child interaction.

The report is organized into three divisions:

1) Theoretical background and purposes underlying PCI models.

2) Research procedures used in the studies reviewed.

3) Significant findings of current studies.

The sources for the review include abstracts, doctoral

dissertations, completed or in progress, current literature, and ERIC documents.

A discussion of the implications of these studies to the proposed research at USC will form the conclusion of this report.

THEORETICAL BACKGROUND AND PURPOSES UNDERLYING PCI MODELS

Introduction

Two assumptions formed the rationale for early childhood intervention and research programs developed under the aegis of the U.S. Department of Health, Education and Welfare in the mid 1960's. One assumption was that intelligence is strongly influenced by experience (Hunt, 1964). The second assumption was that the early years are vital, possibly constituting a critical period, to later cognitive and social development (Bloom, 1961).

Widespread acceptance of these assumptions led to Head Start and other compensatory programs, particularly for young children. Bernstein (1972), emphasizing this point, wrote:

> The concept of compensatory education points to the overwhelming significance of the early years of the child's life in the shaping of his later development. Clearly, there is much evidence to support this view and its implications are that we should create an extensive nursery school system. (p. 138)

One such compensatory program, The Perry Preschool Project, later known as the Ypsilanti Preschool Demonstration Project, was predicated on the theory that preschool intervention could

be an effective ameliorative technique in preventing the possibility of children's later learning problems (Radin, 1970). Now the project has expanded into the Michigan Early Education Program which continues to influence compensatory education not only in Michigan but in other states as well.

The impetus for the beginning of parent-child interaction studies was an outgrowth of the Michigan and other early intervention programs. Research reports indicating loss of gains one or two years after leaving preschool suggested that the parent-child relations were important determiners in the success of the programs (Hess and Shipman, 1967; Radin, 1968). Consequently, studies were developed to augment accrued gains and were based on the concept of the importance of parental influence on the child's learning. The general proliferation of PCI studies in the late 60's and early 70's arose out of the search for reliable intervention procedures for stimulating intellectual and social growth in young children. Researchers were willing to concede that change in children takes time and involves more than short term intervention in a preschool setting.

Hypotheses were derived from two important assumptions regarding parent-child relationships. The first assumption was that parenting is a learned behavior and varies according to cultural and socioeconomic setting. The second assumption was that improving the parent's concept of self subsequently would

benefit the child's development. Both assumptions are discussed sequentially in the following sections.

Parenting as Learned Behavior

Watts' (1973) work, which gathered data in the natural milieu of the home environment, attempted to identify some of the qualitative differences in the parent-child relationship; such as the amount of parental education and the quality of the mother's time spent with her child.

Supporting Watts, other researchers investigated the linguistic interaction of parents with their children. It was hypothesized that some parents expand children's efforts to communicate while others are autocratic and restrictive in their verbal behavior (White, 1973). For example, the parent who commands his child to "sit down and be quiet," restricts not only the child's linguistic development but also his social and cognitive development. In comparison, the parent who says, "We need to sit down while we eat our food because we might spill it," is giving the child a cause and effect relationship and the elaboration of language.

Bernstein's (1972) work in socio-linguistics clearly delineated differences in linguistic codes and suggested that they might follow social class lines. The question of middle class parents tending to use more elaborate codes and offering more linguistic experiences to their children than lower class

parents was the principal thrust of his exhaustive study.

Besides language, other variables which might differ in parent-child relationships according to social class were studied. For example, Brody's work (1973) investigated the hypothesis of the relationship between maternal responses and children's behavior as a function of socio-economic class. Would there be significant differences in mothers' cognitive, emotional, and physical styles of relating to their children? If so, would they differ along class lines and, in some instances, ethnic background?

Several studies focusing upon mother-child interaction evolved from tne Michigan Early Education Project (Radin, 1967). The main thrust of Radin's work was to examine changes in attitudes towards educational values in mothers of preschool children. The research was designed to intervene in the socialization process of children towards internalizing middle class values which were deemed necessary for later success in school. Although the purpose of the intervantion seemed to be aimed at the socialization of children, the emphases of the research were on enhancing intellectual gains.

In a later but related study, Radin (1970) investigated the probable effects of maternal warmth in the cognitive growth of the child. The purpose of this research was to assess whether a mother's affective behavior towards her child had

significant effects upon his intellectual progress at school.

One important study designed to explore the effects of mother-verbal intervention on preschool children's later intellectual development was the Verbal Interaction Project which mounted the Mother Home Program (Levenstein, 1971, 1972, 1973). This program, as well as Karnes' (1968) attempted to increase verbal interaction between family members. Final reports on these family cognitive studies were published in 1972 and 1973.

Investigating the effects of modifying the young child's environment to promote increased growth in his total development led to studies in which the essential component of change was an increase in adult intervention. This concept of the interaction between experience and growth is well expressed by Bruner (1972) who noted that the unlocking of the child's intellectual capacities depended upon the ways he was exposed to his culture. This principle is basic to studies initiated by Caldwell (1968) who stated:

> The development of the young child is fostered by a positive emotional climate in which the child learns to trust others and himself....The development of the child is fostered by a relatively high frequency of adult contact involving a relatively small number of adults. (p. 236)

Modification of Parent's Self-Concept

The second assumption regarding parent-child interaction was that the improvement of the parent's self-concept subsequently would benefit the child's development. The concept of

the mother as a teacher would be illustrative of this assumption. Two separate studies, one by Nimnicht (1970) and another by Gordon (1975), illustrate this assumption. The purpose in both of these studies was to train the mother to teach her child, thus changing the intellectual atmosphere so that the parent's self-concept would be modified and enhanced. As Gordon (1975) related:

> There have been few studies of mother child interaction from a teaching view point or in a structured situation, but the few seem to show common characteristics. A primary fact is that such teaching goes on at all. Research in Holland, Israel, England, Australia as well as the United States shows clearly the educational advantage to the child of the parent who takes time and sees himself or herself as a teacher of the child. (p. 61)

Clearly, the parent who has this perception of self is more confident. Nimnicht (1970) also hoped to affect the involvement of parents in the decision making process of their children's education. Goodman (1975) suggested that modification of the mother's behavior may be the mediating step between the application of the educator's knowledge and improved functioning on the part of the child.

RESEARCH PROCEDURES USED IN THE STUDIES REVIEWED

This section of the report discusses the procedures used in the selection of samples and in the implementation of the research reviewed.

Selection of Sample

Parent-child interaction projects have, as a rule, focused on economically deprived families under the rubric of compensatory education. This holds true in the literature reviewed.

Sampling procedures. The population described in these studies generally compared rural and urban communities, social classes, ethnic background, or a combination of these populations. From these parameters were drawn samples ranging from 15 (Karnes, 1968) to 137 children (Brophy, 1970). In longitudinal studies as many as several hundred were sampled (Hess and Shipman, 1967; Westinghouse, 1969). The number of mothers included in the samples varied in relation to the number of children. Procedures for selecting the samples differed widely. Some project groups were selected randomly, while in other instances, mothers were paid to participate (Radin, 1969). Karnes consulted social service agency rolls as the source of his sample.

Socioeconomic status. Socioeconomic groups varied. There were low economically deprived families (Karnes, 1968), less economically depressed groups (Levenstein, 1972, 1973), middle-class families (Brophy, 1970), or some combination of SES groups.

Age range. The ages of the children ranged from one year at the beginning of the research (Watts, 1973) through six years (Gordon, 1973). ? IQT?

Implementation of the Research

As is to be expected, there was considerable variation in the experimental designs. Maternal involvement varied from no intervention (Brody, 1973) to direct intervention in family living styles (Caldwell, 1966).

For those programs utilizing the latter design, the implementation procedures fell into two categories: 1) parents attended child development courses and then were trained in the home (Karnes, 1968; Nimnicht, 1972); and 2) models were used to demonstrate teaching techniques with appropriate materials (Goodman, 1975). Both procedures for training parents were focused on altering their behavior and/or attitudes towards themselves and their children. A third category employed may be defined as a combination of both techniques with an emphasis on one or the other. Studies illustrative of the three intervention categories are described in the following paragraphs.

Parents attending a child development course and trained in the home. Karnes (1967, 1970) conducted two studies. In the first, the mothers of 18 month old children attended two hour classes weekly and were instructed in teaching techniques in the home. In the second study, the group meetings were held twice monthly with less home visits. In both studies the mothers were directly involved in the production of test materials. This involvement was considered an effective component of the training because the mothers understood the procedures and the rationale of the study.

Nimnicht's (1972) intervention strategy was similar to Karnes. The mother was taught the use of instructional toys and other materials while at the same time she was helped to develop skills in playing with her child. This training was offered in the form of a course to parents over an eight week period.

The use of models. Modeling as a method of intervention was used by Goodman (1975). Undergraduate nursery education students were trained to become models for the mothers. The parents learned to use three alternative types of behavior when interacting with their preschool children. These behaviors involved information processing, positive reinforcement, and positive control. The intervention lasted ten weeks.

Combination method. Levenstein's (1967, 1973) Verbal Interaction Project is an example of the combination method. The experimental group was exposed for two seven month periods

to home teaching sessions which were conducted by Toy Demonstrators serving as models for the mothers. When the 30 minutes twice weekly visits were made, the Toy Demonstrator brought toys and other educational materials which were chosen because of their suitability to the child's interest and level of development. The toys were considered as gifts because they were always left behind in the home. The purpose of these visits was to enable the mother to develop the confidence and the skills necessary for using the materials with her child in a relaxed atmosphere. She was given every opportunity to observe and adapt the methods used by the model. Gradually, as the mother increased her competency, the model played a less prominent role. The success of this program depended upon the mother's willingness to participate.

Another form of the combination method was the Singer and Singer project (1974). Although all of the methods described in this report depended upon adult participation to obtain meaningful effects for children, the Singer project demonstrated an interesting procedure relevant to the proposed USC project. Television was introduced as an added interactional effect upon children's social development. The role of adult intervention was represented either by an actual teacher working with three and four year old children or by a variation where an adult model interacted with the children

during a television program which was highly geared to fantasy. Children, ranging in age from three to five years, were randomly assigned to four groups of fifteen each. The groups consisted of children who: 1) watched a particular TV show; 2) watched the same show while interacting with an adult present; 3) spent time in fantasy play with an adult without the television component; and 4) served as a non-television control group.

SIGNIFICANT FINDINGS OF CURRENT STUDIES

The findings of the interaction studies reviewed in this report are grouped under two general headings: 1) studies related to parenting as a learned behavior; and 2) studies related to the modification of parents' self-concept. The studies in both categories focus on the need for changing parental behavior and/or attitudes towards the child.

Parenting as Learned Behavior

The findings on parenting as learned behavior varied. Brody (1973), describing parents' perceptions of maternal care and control, found some caring behaviors crossed social class lines while control techniques, particularly physical control, differed according to SES groups. Mothers' cognitive inputs varied from group to group, too. Middle class mothers tended toward more intellectual content as compared to lower SES groups. Differences in ethnic backgrounds also were found. For instance, working class mothers of recent European origin tended to be more emotional in the care of their children.

Other studies were attempts to identify actual parenting practices through careful observation of mothers' interact-

ion with their children. Differences were found in teaching styles. For example, Brophy's (1973) findings indicated that these styles ranged from mothers who were primarily reactors to their children to mothers who actively stimulated their children's learning. The latter category was defined as proactive teaching. Again, social class differences were not attributable solely to the variations in teaching styles.

Singer and Singer (1974) also found similar differences in maternal teaching styles. Mothers who were concerned with helping their children to develop independent thinking displayed proactive behaviors by: 1) monitoring their children's television viewing; and 2) initiating dramatic play activities. In contrast, mothers who seemed less concerned about their children's growth generally took a more passive role.

In another observational study, Watts (1973) noted a correlation between parents' behavior and their children's developing competency. By age three differences were observable.

Studies in which the treatment was direct intervention in parental behavior reported the most substantial gains in intellectual, linguistic, and social development. Evidence of gains was found by Karnes (1968) as significant correlations between mothers' affective behavior and: 1)

cognitive growth as measured by intelligence tests; 2) intellectual achievement in school; and 3), teachers' assessments of children's motivations. These significant findings were attributed, in part, to the mothers' involvement in the preparation of the toys used in the treatment. Radin (1970), making similar assessments as Karnes, reported maternal warmth as the significant correlational variable.

Gordon's (1968) findings paired increased parental skills with intellectual gains which were sustained only when the intervention began in infancy.

Linguistic and social gains appeared as a part of the overall findings of Caldwell (1968) and Hess and Shipman (1967).

Caldwell reported that the training of mothers led to increased verbal interaction between parent and child and this, in turn, led to enhanced linguistic ability and social performance.

Hess and Shipman investigated the relation of maternal life styles not only to the linguistic but also to the social development of the child. They concluded that economic deprivation acts as a deterrent to the child's subsequent school achievement and socialization.

Modification of Parental Self-Concept

Studies in which parents' attitudes changed with

respect to their self-concept reported several significant relationships. The modification of parental self-concept significantly correlated with: 1) the child's changed view of self and of his intellectual performance (Nimnicht, 1972); and 2), the mother's perception of her role as a teacher (Goodman, 1975). The later research, particularly, showed appreciable increases in children's ability to process information.

Positive attitudinal changes in parents created what Levenstein (1972) called a vertical diffusion effect. When interaction skills and self-confidence were increased, mothers' behaviors towards siblings changed. In short, child rearing practices, when favorably modified, benefited all the children within the family.

Summary

Relevant findings of 12 interaction studies were reported in this section. In all instances, when the mother learned new parenting skills and viewed herself as a competent adult capable of assuming the teaching role, there were concomitant gains for her child. Table 1 graphically summarizes the studies.

Although Hess and Shipman's work strongly suggested social class as the distinguishing characteristic of parent child interaction, the findings reported in these studies were not definitive. Some maternal behaviors followed class lines while others did not.

Table I

SUMMARY OF PARENT-CHILD INTERACTION STUDIES

STUDY	PURPOSE	PROCEDURES			FINDINGS
		Population	Sample	Techniques for gathering data	
Brody	Investigate attitudes of parents towards their children.	Mid./Low-Mid./ Low SES.	Urban Black & European Sub-urban White.	Questionnaire re: maternal care & control of child.	Maternal care crossed SES lines. Maternal control varied re: SES.
Brophy	Study differences in mothers' teaching styles re: SES groups.	Mid./Low SES.	137 mothers & children.	Observ. parents' ling. styles of PCI.	Styles of teaching range: reactive to proactive crossed SES groups.
Caldwell	Provide child development guidance to parents.	Urban Black Low SES.	127 families children 1-12 years old.	Parent training in home.	Increased intell. & linguistic growth with increased PCI.
Goodman	Train mothers in child rearing practices.	Low SES White, Rural.	52 mothers.	Model behavior for parents to emulate.	Increased parent understanding of child behavior.
Gordon	Increase parental skills of teaching.	Low income families.	Children 1-6 & mothers.	Parent training in home by para-prof.	Sustained intell. when intervention began in infancy & paired with increased parent skills.
Hess & Shipman	Study impact of maternal teaching styles on children's intell. growth.	Urban Black families, Low Mid. SES.	163 mothers & children in 2 studies.	Interviews in home; test & train mothers.	Intellectual, social, and linguistic gains.

Table 1 (cont.)

STUDY	PURPOSE	PROCEDURES			FINDINGS
		Population	Sample	Techniques for gathering data	
Karnes	Explore effect of verbal interaction on child development	Urban, Low SES	30 children 39-51 months.	Train. by using mother prepared materials.	Effect correlated to child I.Q. and socialization.
Levenstein	Explore effect of verbal interaction on children's later cog. development.	Urban, Upper-Low SES.	54 preschool children and mothers.	Train. by using special materials and adult demonstrators.	Lasting I.Q. gains; parents' attitudes favorably modified Downward diffusion.
Nimnicht	Develop parent's self-concept to benefit child.	Urban mothers and children.	3-4 year olds.	Train. in child develop courses using toys & materials.	Changes in parent attitudes increased child skills and concept learning.
Radin	Effects of maternal warmth on I.Q. gains.	Urban, Black Low SES.	152 mothers and children in 2 studies.	Home tutorial preschool program.	Changes in mothers' attitudes towards school and motivate. Increased I.Q. correlated to maternal behavior.
Singer & Singer	Evaluate PCI with TV component.	Urban children 3-4½ years old	80 children.	Observe spontaneous play w TV/ wo TV.	Increased imaginative play and prosocial behavior w/ TV
Watts	Study aspects of home environment re: child competency.	Contrasting SES groups.	40 children 1-3 years old	Observe and test.	Increased intell. and verbal gains with increased adult interaction.

DISCUSSION OF FINDINGS

Underlying all of the studies are the psychological and sociological advantages of intervention in parental styles as a viable means of affecting children's development. Of possibly more importance is the notion that attitudinal changes in parents can be effected and to the advantage of all family members, particularly the younger children. This finding alone should be sufficient to validate the continual need for parenting programs.

The most effective techniques for enhancing parental skills and attitudes appeared to be:

1. The involvement of mothers in the preparation of toys or other materials to be used in PCI programs.
2. The use of models who can demonstrate the particular behaviors to be effected.
3. Learning to use language which makes intellectual demands upon the child, expands his knowledge, and channels his activities into linguistically processing of information.
4. Psychological support of mothers during training.

Although there was consistent evidence of children's intellectual, social, and linguistic growth, particularly short-term gains, there were reports of some declines after the first or second year. The duration of the intervention period would have some effect on the outcomes, but to

conjecture that the earlier the intervention the greater the possibility of lasting gains seems reasonable in light of the evidence. However, the same might not hold true for children from the most economically deprived homes (low, low SES groups). Parental motivation posed a problem in such instances. Parents who are anxious about the basic needs of daily living may not be sufficiently motivated to participate in intervention research.

Since most of the studies were concerned with social class as an important variable, this finding needs to be considered in planning programs; however, the assumption that mental deprivation is a function of social class is an overgeneralization. Tying such deprivation to poverty families is all too simplistic.

The investigators discussed in this report used caution in drawing conclusions form their data, particularly where the applicability to other groups was concerned. Sampling procedures were validated with respect to the populations examined.

CONCLUSIONS AND IMPLICATIONS FOR THE USC PROJECT

Conclusions

Several theoretical assumptions with respect to the effects of parent-child intervention are substantiated in the studies reviewed in this report. The conclusions drawn from these findings support two assumptions made earlier in the paper: 1) parenting is a learned behavior which affects children's intellectual, linguistic, and social development; and 2), modification of the parent's self concept benefits the child.

The first assumption leads to the conclusion that all programs for young children, whether at home or in school, need to involve parents who have a repertoire of parenting behaviors which enhance children's development. It seems that some parents intuitively know how to parent while others need consciously to learn the appropriate skills. Whatever the parent's need, it must be met so that provision is made for her involvement in her child's learning.

The second assumption, that parental changes in perceptions of self affect the subsequent development of children, leads one to conclude that such perceptions are modifiable. The responsibility for generating such modifications rests with project designers who must plan ways for parents to

gain self confidence, possibly allowing an extensive time period to effect change. The crux of developing an effective PCI model is well expressed by Bernstein (1970) who emphasized:

> Parents must be brought within the educational experience of the school child by doing what they can do with confidence. (p. 138)

What parents can do with confidence depends upon their past experience, education, and self-perceptions.

That parents can learn new ways of interacting with their children is borne out in several studies. Therefore, it is possible to conclude that programs which motivate parents to learn new skills and which involve them in preparing materials to use with their children will have the most salutary effects upon intellectual, linguistic, and social development.

Implications for the USC Project

The information derived from these 12 reported studies suggests that consideration be given to the following variables when designing the proposed USC project:

1. Treatment characteristics. The treatment will be characterized by emphases upon: 1) sustaining the motivation of the parent to interact with her child; and 2) using modeling as the technique for internalizing her newly learned skills. Both emphases are viewed as reciprocal processes in which each one continuously is reinforcing the other. As the mother acquires new skills, she theoretically desires to perfect them which leads in turn, to more involvement with her child culminating in what is described by Levenstein as a vertical diffusion effect.

2. Parental motivation for the project. Closely associated with the first variable is the parent's willingness to cooperate in the research. To stimulate their interest and involvement, the parents will participate in planning and in preparing the interaction materials.

3. Variation in the sample. When the sample is drawn from a population representative of different social, ethnic, and linguistic groups, the generalizability of significant findings is greater; therefore it is advantageous to include a broader based population.

4. Age of children. The literature suggests that intervention is most effective in the early years. If at all possible, children ranging from infancy to six years will be included in the sample. Practical considerations may require some changes.

5. Length of treatment. The duration of the intervention period is critical and must be long enough to allow for measurable results.

The inclusion of these variables raises questions because the effect of PCI combined with commercial television viewing is presently unknown. Studies described in this report have stressed the importance of the child's total environment (physical and social) to his overall development, but what role does television play in his intellectual, linguistic, and social development? Can there be positive effects? Can parents learn how to use commercial TV as a mediator of children's symbolic thought?

It seems reasonable to expect that a parent who learns to utilize the flood of information and symbolic experiences coming into the home through television can enhance the

learning environment of her child. It may prove too, to be a way to influence the parent to be more selective in the types of programs chosen for viewing.

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